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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,557	03/31/2004	Joseph E. Paganessi	Serie 6390	4106

7590 06/12/2007  
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EXAMINER
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PATEL, VINIT H

ART UNIT	PAPER NUMBER
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1764

MAIL DATE	DELIVERY MODE
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06/12/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/813,557	Applicant(s) PAGANESSI ET AL.	
	Examiner Vinit H. Patel	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>31Mar04:13Sep04</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

Claim 12 is objected to because of the following informalities: at line 4, after "device;" the word "and" should be inserted for correct english grammar. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6-10 and 15-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Bingham, GB 600619A.

Regarding the following claims:

1 and 19. Bingham discloses acetylene generation and supply system comprising (Fig. 1): an acetylene generation device (a) configured to generate acetylene from at least one reactant feed stream including at least one carbon containing material (calcium carbide, P3/L76-90); and an acetylene processing device (r, s) (Fig. 1) oriented in-line and downstream from the acetylene generation device to receive and process generated acetylene from the acetylene generation device so as to consume at least a portion of the generated acetylene upon operation of the acetylene processing device (P4/L29-40, Fig. 1).

6 and 15. The system or method of claim 1 or 10, further comprising: at least one storage cylinder (f) connectable with the acetylene generation device (a) to receive and store acetylene generated by the acetylene generation device (Fig. 1).

7 and 17. The system or method of claim 6 or 15, wherein the at least one storage cylinder is free of acetone (purifier e removes impurities, P3/L100-105).

8 and 16. The system or method of claim 6 or 15, wherein the at least one storage cylinder (f) is disposed in-line between the acetylene generation device (a) and the acetylene processing device (P4/L29-40, Fig. 1).

9 and 18. The system or method of claim 1 or 10, further comprising: a purification unit (e, Fig 1) disposed in-line between the acetylene generation device (a) and the acetylene processing device (P2/L52-56, Fig. 1) or directing the generated acetylene through at least one purification unit prior to directing the generated acetylene to an acetylene processing device (P4/L29-40).

10. A method of generating and supplying acetylene, comprising: generating acetylene in an acetylene generation device by directing at least one reactant feed stream including at least one carbon containing material into the acetylene generation device (Fig. 1, P3/L70-90); directing the generated acetylene to an acetylene processing device disposed in-line and downstream from the acetylene generation device (Fig. 1, P3/L30-55); and operating the acetylene processing device to consume at least a portion of the acetylene (P4/L29-43).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2, 4, 5, 11, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bingham, GB 600619A, in view of Fey, USP 4105888.

Regarding the following claims:

2 and 11. Bingham discloses all of the limitations as applied to claims 1 and 10 above, but does not disclose wherein the acetylene generation device comprises an arc plasma reactor including an anode and a cathode disposed within the reactor, and a power source connected to the anode and the cathode to generate plasma within the reactor or the acetylene is generated by generating plasma within the reactor via a power supply connected to the anode and the cathode. Fey discloses an acetylene generation device (Fig. 1) comprising an arc plasma reactor (C3/L14-28) having an anode and cathode (C3/L29-44) to generate plasma within the reactor or the acetylene

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is generated by generating plasma within the reactor (Fig. 1) via a power supply connected to the anode and the cathode (C2/L65-C3/L5), and it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bingham with Fey for the purpose to provide an economical means to produce acetylene without graphite deposit formation (C1/L13-23, C2/L48-52).

4 and 13. The system or method of claim 1 or 10, wherein the at least one carbon containing material is at least one of natural gas, coal, methane and C.sub.2-C.sub.8 alkyl and/or aryl hydrocarbons (C3/L52-65).

5 and 14. The system or method of claim 1 or 10, wherein the at least one carbon containing material comprises methane (C3/L52-65).

Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bingham, GB 600619A, in view of Kubota, USP 5702540.

3 and 12. Bingham discloses all of the limitations as applied to claims 1 and 10 above, but does not disclose wherein the process device comprises a carburization device including at least one chamber to receive and process steel components, the carburization device being configured to perform a carburization process including heat treating and quenching the steel components or wherein the process device comprises a carburization device, and operation of the carburization device comprises: receiving and heat treating steel components within at least one chamber of the carburization device; introducing the generated acetylene into the at least one chamber to facilitate absorption and diffusion of carbon at the steel components. Kubota discloses wherein a process device (Fig. 1) comprises a carburization device 1 including at least one

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chamber to receive and process steel components (Fig. 1), the carburization device being configured to perform a carburization process including heat treating and quenching the steel components or wherein the process device comprises a carburization device, and operation of the carburization device comprises (C3/L37-44) or receiving and heat treating steel components within at least one chamber of the carburization device 1 (Fig. 1, C3/L37-44); and introducing the generated acetylene into the at least one chamber to facilitate absorption and diffusion of carbon at the steel components (C3/L37-44), and it would have been obvious to one of ordinary skill at the time of the invention to modify Bingham with Kubota as a mere substitution of an end use of the acetylene gas produced for the known use of carburizing steel (C1/L11-20).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinit H. Patel whose telephone number is (571) 272-0856. The examiner can normally be reached on 9:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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